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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,453	12/17/2001	Robert L. Parkhill	19264.0004U2	6197

7590 05/02/2003

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Atlanta, GA 30303-1811

EXAMINER

BOLDEN, ELIZABETH A

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/02/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

MN-9

Office Action Summary

Application No.

10/024,453

Applicant(s)

PARKHILL ET AL.

Examiner

Elizabeth A. Bolden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 35-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the Examiner has not shown serious burden to examine all claims. This is not found persuasive because the non-elected inventions are classified and searched in separate areas.

Claims 1-19 and 35-45 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 20, 22, 23, 28, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 20 recites "a plurality of one or more functional particles", the phrase "plurality of one or more" renders this claim indefinite since a plurality means more than one.

The term "low-temperature" in lines 4 and 6 of claim 20 and line 1 of claims 28 and 29 is a relative term, which renders the claims indefinite. The term "low-temperature" is not defined

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by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. What temperature for melting the glass or processing is considered low?

The term "low-temperature" in claims 22 is a relative term, which renders the claim indefinite. The term "low-temperature" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. What is meant by a low-temperature substrate?

The term "low" in lines 1 and 2 of claim 23 is a relative term, which renders the claim indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. How low of vapor pressure or boiling point is acceptable?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 20-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Barker et al., U.S. 5,137,848.

Barker et al. disclose a dielectric composition comprising a glass frit, metal oxide additives, and filler additives. See abstract of Barker et al. Barker et al. disclose that the solid materials are dispersed in an organic medium. See column 1, lines 58-60. Barker et al. disclose that the material is processed by a laser. See column 3, lines 18-21 and 47-49. Barker et al. disclose solvents as an organic medium. See column 6, lines 10-16 and 20-26. Barker et al. disclose that the amount of organic medium depends on the dispersing medium. Column 6, lines 41-47. Barker et al. disclose the dielectric composition comprises a binder. See column 6, lines 54 and 65-68. The compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-34 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Aoki et al., U.S. 6,439,943.

Aoki et al. disclose a dielectric glass paste comprising a glass powder. See Abstract of Aoki et al. Aoki et al. disclose that the glass powder is mixed in a solvent such as terpineol. See column 2, lines 11-14. The reference discloses that the glass powder comprises lead. See column 2, lines 46-48. Aoki et al. disclose the use of a binder and a binder dissolution solvent. See column 8, lines 10-17. The reference discloses that the viscosity of the paste is dependent on the coating method. See column 8, lines 17-19. Aoki et al. disclose the addition of filler material such as TiO₂. See column 10, lines 44-51 and column 13, lines 24-25. The

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compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Corbett et al., U.S. 4,260,406.

Corbett et al. disclose a gelled solder glass suspension. See Abstract of Corbett et al. Corbett et al. disclose an organic vehicle, binder, and a fritted solder glass. See column 2, lines 41-45. Corbett et al. disclose the inclusion of a gelling agent. See column 2, lines 58-63. Corbett et al. disclose different vehicles or solvents. See column 3, lines 51-62. Corbett et al. disclose gelling agents such as organic titanates. See column 4, lines 25-39 and 48. Corbett et al. disclose that the glass can comprise lead. See column 5, lines 58-60. Corbett et al. disclose that the gelled suspension can be dispensed by a syringe. See column 6, lines 12-13. The compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kawakami et al., U.S. 5,814,571.

Kawakami et al. disclose a dielectric paste comprising a powdered glass, a dielectric powder and an organic vehicle. See Abstract of Kawakami et al. Kawakami et al. disclose that the glass comprises lead. See column 2, lines 12-20. Kawakami et al. disclose that the organic vehicle comprises terpineol. See column 4, lines 34-39. The compositional components and

ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-28 and 30-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Shorthouse, U.S. 5,173,457.

Shorthouse discloses a dielectric paste comprising a borosilicate or aluminoborosilicate dielectric material in a medium. See Abstract of Shorthouse. Shorthouse discloses that the dielectric material is made by sol-gel techniques. See Abstract. Shorthouse discloses that the composition may include solvents, surfactants, and modifiers. See column 2, lines 11-13. Shorthouse discloses solvents. See column 2, lines 35-40. Shorthouse discloses that the mixture of solids and medium varies as needed for the application. See column 2, lines 41-46. The reference discloses that the material comprises glass. See column 3, lines 24-27. Shorthouse discloses that the monodisperse spheroids are made by sol-gel methods. See column 3, lines 45-46 and 48-54. The compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-34 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Tormey et al., U.S. 6,399,230.

Tormey et al. disclose a resistor ink comprising ruthenium oxide and a glass. See Abstract of Tormey et al. Tormey et al. disclose that the glass and ruthenium oxide are mixed with an organic vehicle. See column 2, lines 16-19. Tormey et al. also disclose the mixture may comprise barium titanate. See column 2, lines 24-26. Tormey et al. disclose that the

composition contains ceramic fillers, binders, and solvents. See column 3, line 60 to column 4, line 10 and column 4, line 21. The compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Claims 20-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Haertling et al., U.S. 5,312,674.

Haertling et al. disclose a ferromagnetic material in ink form. See Abstract of Haertling et al. Haertling et al. disclose that the ferromagnetic material comprises a ferromagnetic oxide powder, a glass powder, and an organic binder or vehicle. See column 3, lines 65-68. Haertling et al. disclose a ferromagnetic oxide. See column 4, lines 1-14. Haertling et al. disclose a lead containing glass frit. See column 4, lines 15-19. The reference discloses an organic vehicle. See column 4, lines 51-55. The reference discloses changing the percentage of solvent to alter the viscosity of the ink. See column 4, lines 60-64. The compositional components and ranges are sufficiently specific to anticipate the composition of claims 20-34. See MPEP 2131.03.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Bolden whose telephone number is 703-305-0124. The examiner can normally be reached on 8:30am to 6:00 pm with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 703-308-3823. The fax phone numbers for the

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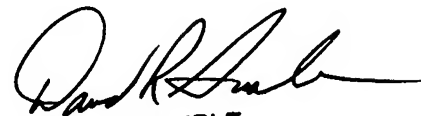
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organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

EAB
April 29, 2003


DAVID SAMPLE
PRIMARY EXAMINER